United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

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NEAR-INFRARED TRANSMITTANCE (NIRT) CORN OIL AND PROTEIN CALIBRATION ADJUSTMENTS

1. SUMMARY

Beginning September 3, 2001, the Federal Grain Inspection Service (FGIS) will implement updated corn oil and protein calibrations for official near-infrared transmittance (NIRT) instruments. No changes are planned for the corn starch calibration at this time.

2. BACKGROUND

FGIS performs annual reviews of the corn oil, protein, and starch calibrations to measure the performance of NIRT instruments compared to the standard reference methods: Combustion Nitrogen Analyzer (CNA) for protein content, Solvent Oil Extraction for oil content, and Polarimetry for starch content. The periodic adjustment of calibrations provides the grain industry with the best possible information from which to determine end-product yield and quality of grain.

FGIS recently completed a review of the corn calibrations (protein, oil, and starch) for the NIRT instruments. Based on the results of the review, FGIS determined that the protein and oil calibrations should be updated to include new varieties of value-enhanced corn that will be entering the market with this year's harvest. Calibration data were obtained from industry and from Iowa State University to assist in the calibration review and update process. The review indicated that no changes are needed for corn starch at this time.

3. IMPLEMENTATION

FGIS will issue a new GIPSA NIRT Calibrations disk, new Standard Reference Samples, new baseline values, and the standard slope settings for corn oil, protein, and starch to all official testing locations.

4. ANTICIPATED EFFECT

The effect of the oil calibration adjustment will be a zero net change based on a system-wide average. The specific effects of the updated calibration will vary from sample to sample.

The protein calibration update will not change the system-wide average protein, but will affect results at high and low protein extremes. On average, protein values will be reduced by 0.2 percent for samples with protein values less than 8 percent. For samples with protein values greater than 10 percent, average protein results will be increased by 0.2 percent. Differences observed for individual samples will vary from this estimated average effect.

5. QUESTIONS

Direct any questions to the Policies and Procedures Branch at (202) 720-0252.

/s/ David Orr

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